

Conserving Coral Reefs through a Responsible Marine Ornamental Trade



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Marine Aquarium Council (MAC)

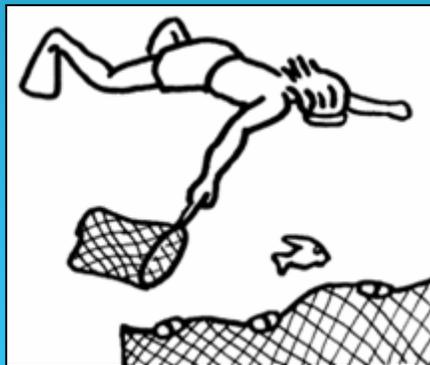


- Independent, not-for-profit organization headquartered in Honolulu with regional offices in SE Asia, Pacific Islands, America & Europe
- Includes conservation organizations, public aquariums, hobbyists & industry
- **Mission: Conserve coral reef ecosystems by creating international standards and certification for those engaged in the collection and care of ornamental marine life from reef to aquarium**

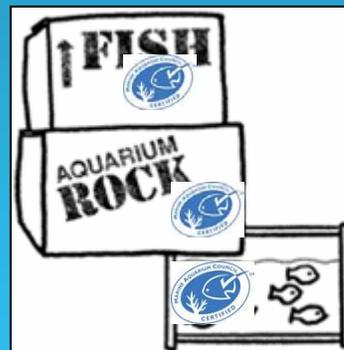
Three Things You Should Know about the Marine Aquarium Council

1. MAC is making sustainable marine management happen now by harnessing market forces through international certification for the global marine aquarium trade.

Collectors



Collection Areas

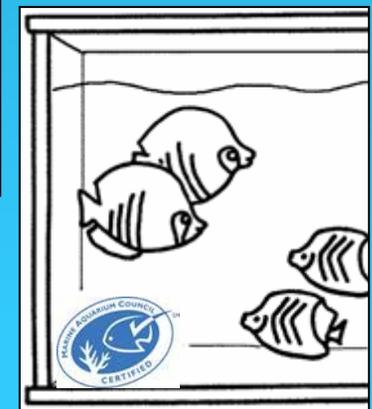


Exporters

Importers

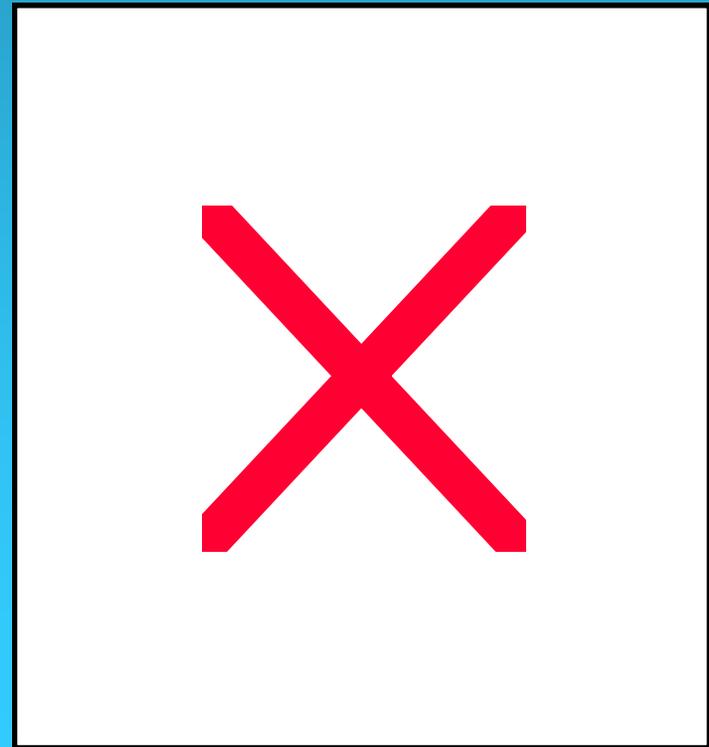


Retailers



Three Things You Should Know about the Marine Aquarium Council

2. MAC Certification transforms a fishery that has been responsible for environmental destruction into a positive force for conservation, management and sustainable use.



Three Things You Should Know about the Marine Aquarium Council

3. MAC Certification delivers what the US government and US consumers want:

- sustainable trade in coral reef species
- reef management and conservation
- healthy reef aquarium organisms



Marine Aquarium Council Certification

International System of Environmental Standards, Certification and Labeling

- Created through international multi-stakeholder consultations
- Launched in late 2001
- Standards for:
 - Ecosystem and Fishery Management
 - Fishing Practices
 - Husbandry and Transport

Ecosystem and Fishery Management (EFM) Standard



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- ✓ **Define the collection area**
- ✓ **Develop and implement a management plan**
- ✓ **Record harvests, harvest methods, other uses of the area**
- ✓ **Monitor reef health and fish stocks**

MAC Certification Results

Measurable Marine Area Management and Conservation

- Reef management areas and reserves created
- Certified aquarium fishers that do not use destructive fishing practices

Reef and Fishery Assessment and Monitoring

- Reef and aquarium fishery assessment/monitoring methods through MACTRAQ
- Data on the status and trends in the condition of reefs and fish stocks

Collection, Fishing and Holding (CFH) Standard



- ✓ Use only non-destructive collection methods, trained staff and equipment in good condition
- ✓ Collect only what is ordered
- ✓ Keep logbooks
- ✓ Employ best practices in post-harvest handling

MAC Certification Results

Empowering Reef Managers and Management

- Certified collectors ensure only qualified collection practices take place on their reefs
- Communities ensure outside “poachers” and illegal users stay out of the managed areas

Sustainable Livelihoods and Poverty Alleviation

- Ensuring healthy reefs supports a sustainable fishery and other community needs
- Empowering fishers to interact with buyers on a level field, get more for their resources by ensuring product quality

Handling, Husbandry and Transport (HHT) Standard



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- ✓ Use appropriate acclimation, screening, packing and shipping methods
- ✓ Monitor and record mortality and water quality
- ✓ Use chemicals responsibly (e.g., for disease control)
- ✓ Maintain documentation (e.g., orders, invoices, mortality rates, dispatch records)

MAC Certification Results

Private Sector Commitment to Sustainable Use

- Over 90 companies from 17 countries have signed on to be certified as soon as possible
- Most major marine aquarium trade associations endorse MAC, e.g. Philippines, Indonesia, Pacific, Europe, US
- Industry is helping to support training and supply needs to collectors to ensure they use non-destructive methods

Financially Sustainable Marine Area Management

- MAC Business Plan outlines a 5-year track to self financing
- Industry confirms willingness and ability to pay for MAC Certification value and services

Global Trade in Marine Aquarium Organisms

SUPPLY

- From 45 countries (Philippines, Indonesia, Fiji, Sri Lanka, etc.)
- 98 percent wild-caught
- 14 million to over 30 million fish annually
- 3,000 tons live coral annually

MARKET

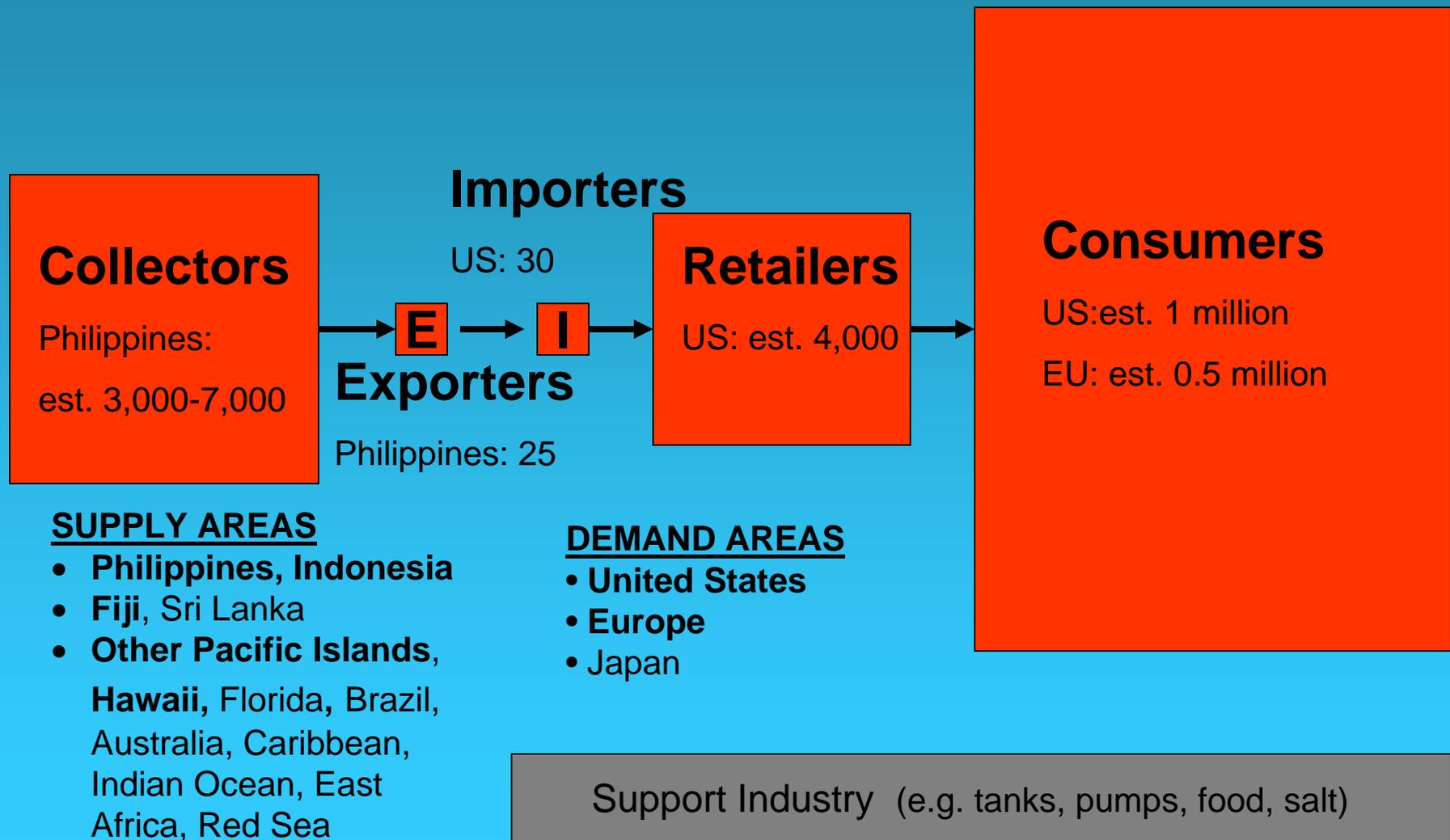
- United States imports nearly half of the trade and more than 80 percent of the live coral
- Other major markets are Europe and the Far East, especially Japan



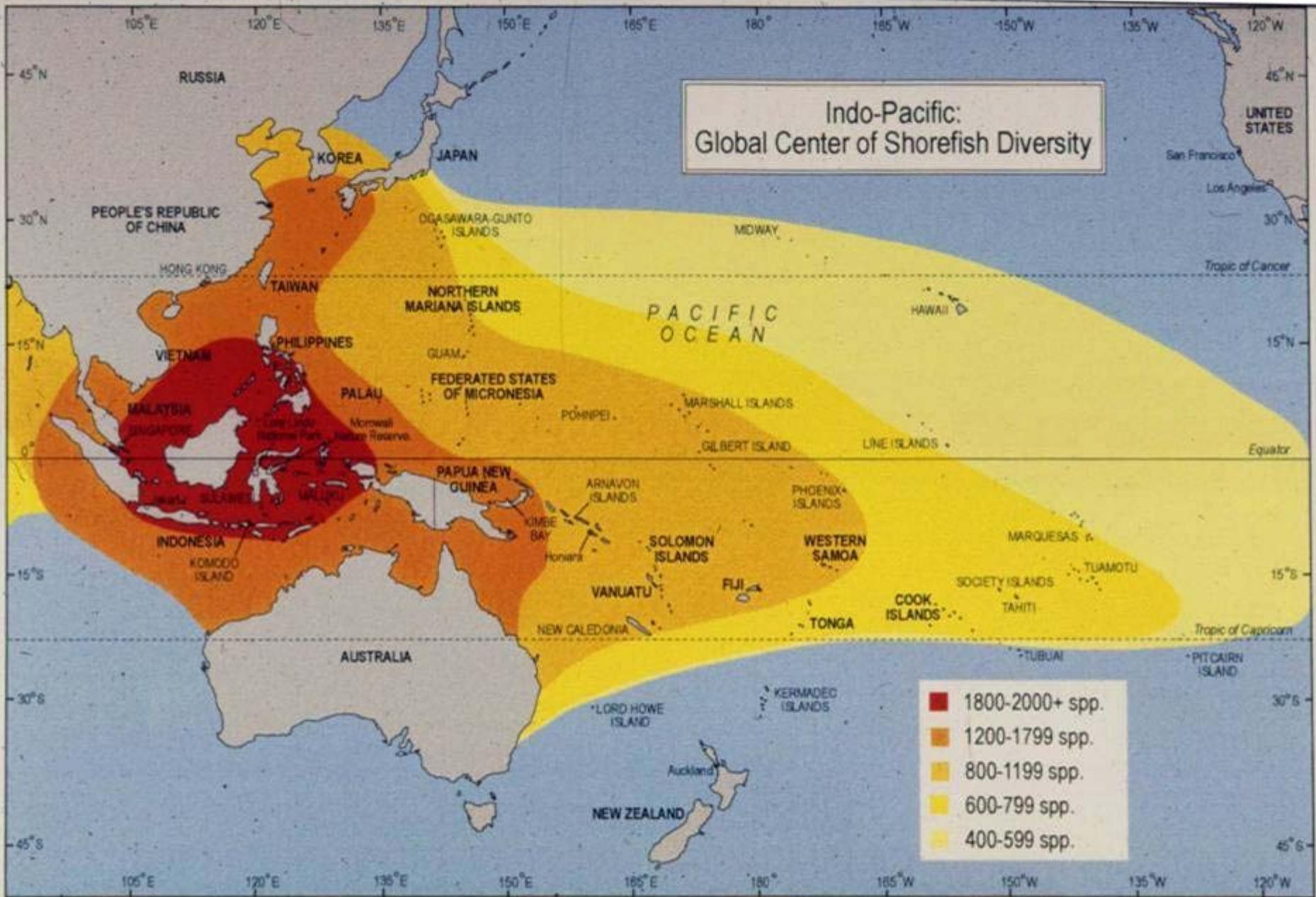
Marine Aquarium Trade Characteristics

- US\$ 200 million: estimated US retail value for marine aquarium organisms
- Wild caught >95 % of marine aquarium trade: fish (approx. 1000 species), live coral, “live rock”, invertebrates (clams, shrimp, soft coral)
- Income generation in rural low-income coastal areas of developing countries = incentives for reef stewardship by collectors and communities
- Highest value-added sustainable reef product:
 - \$248/lb aquarium fish vs. \$3/lb food fish
 - \$3.50/lb live coral vs. 3 cents/lb crushed coral for lime

Supply / Demand and Chain of Custody



Indo-Pacific: Global Center of Shorefish Diversity



Note: Contours represent the maximum number of tropical fish species (reef, inshore, and epipelagic).
 Adapted from Stoddart (1992) "Biogeography of the Tropical Pacific", and Springer (1982) "Pacific Plate Biogeography, with Special Reference to Shorefishes", modified by G. Allen. Produced by The Nature Conservancy's Hawaii Natural Heritage Program, October 1995.

MAC Certification Progress & Planning: Supply Area – Asia

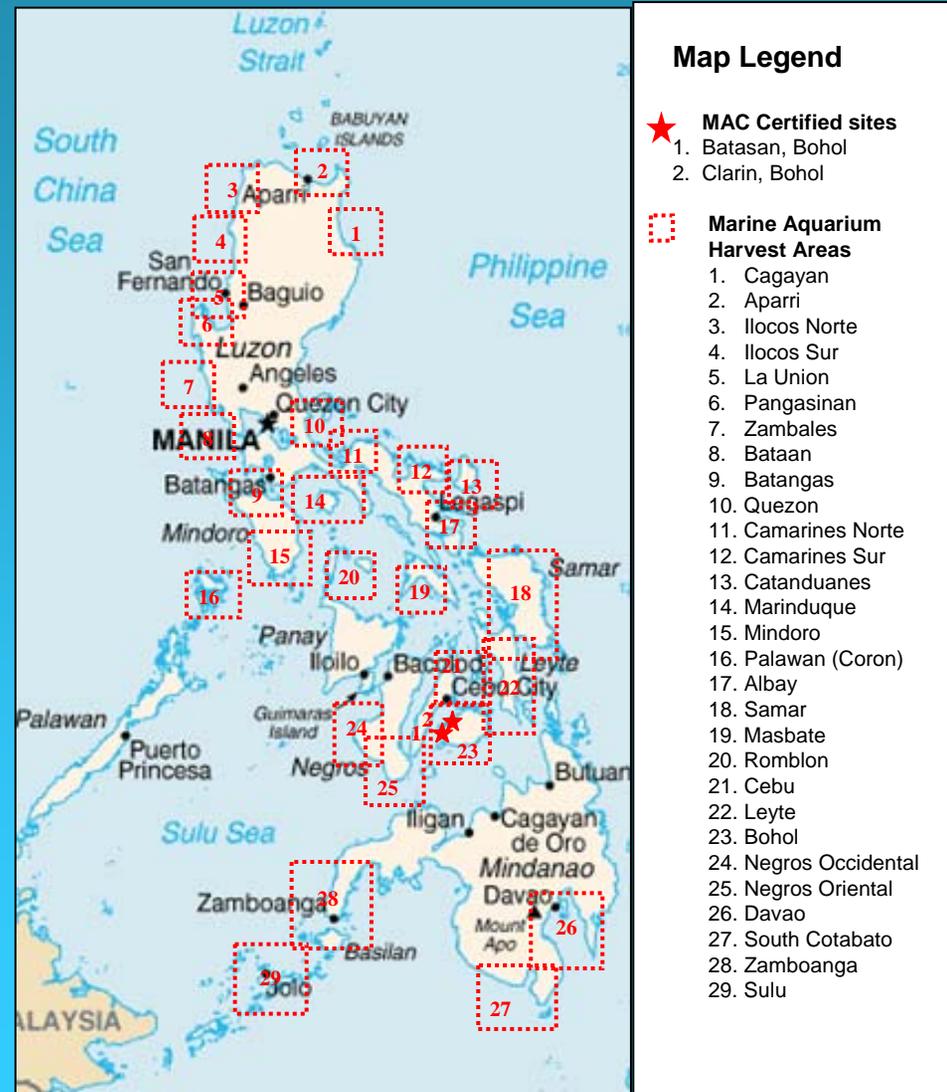
Philippines

Collection Areas & Collectors

- Batasan Island (MAC Certified)
- Clarin (MAC Certified)
- Camotes (training completed)
- 5-8 others (working toward certification in 2004)

Exporters

- 3 Manila (MAC Certified)
- 1 Cebu (MAC Certified)
- 3 others (working toward certification in 2004)



MAC Certification Progress & Planning: Supply Area – Asia

District of Tejakula, Regency of Buleleng, Province of Bali

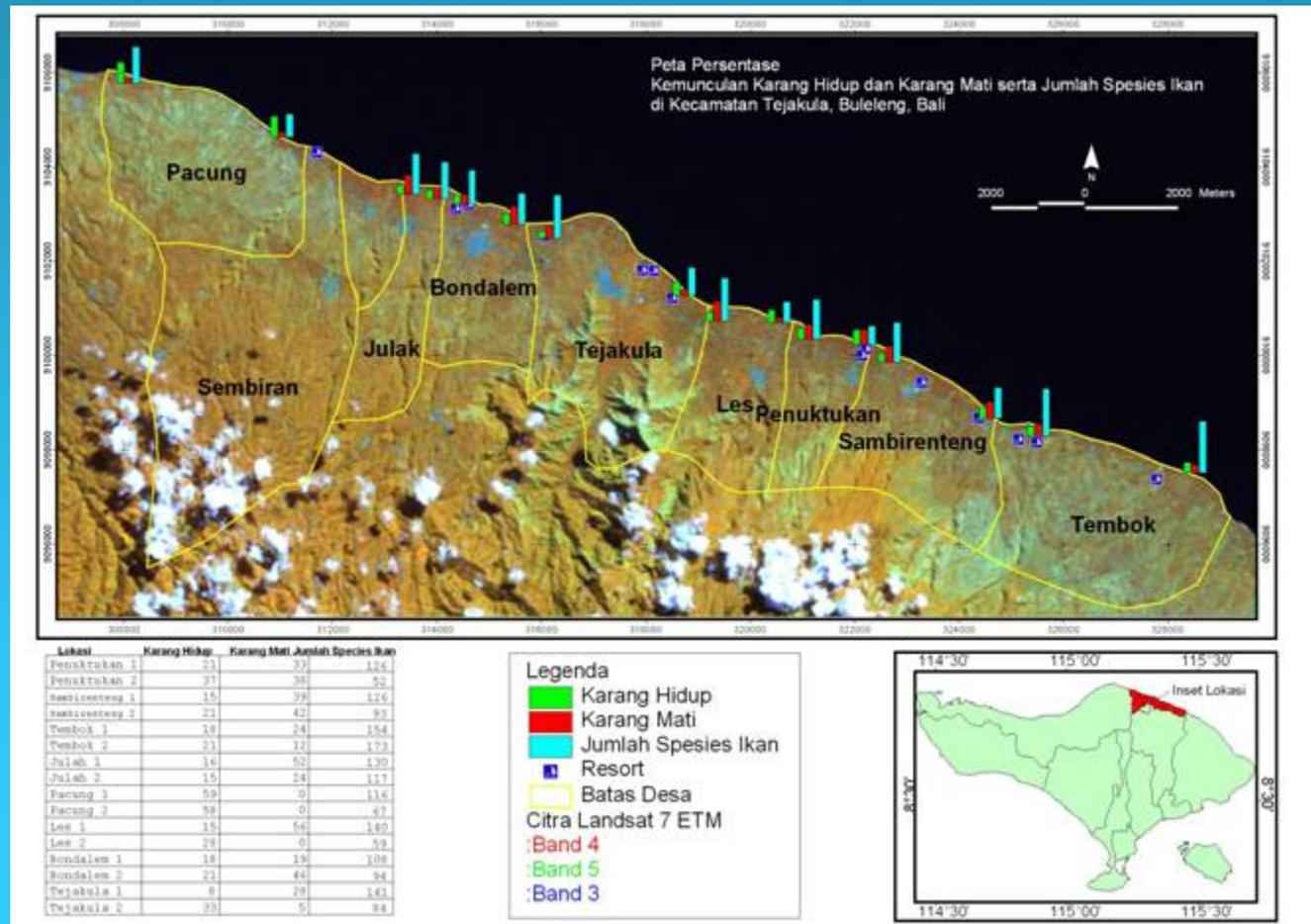
Indonesia

Collection Areas & Collectors

- 21 fishing communities in 2 sub-districts (in progress)

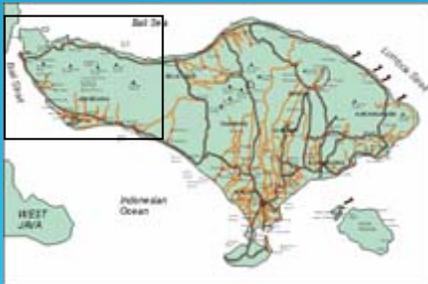
Exporters

- 10 (publicly committed to become certified)



MAC Certification Progress & Planning: Supply Area -- Asia

Indonesia



Gerokgak District, Regency of Buleleng, Province of Bali



MAC Certification Progress & Planning: Supply Area – Pacific Islands

Fiji

Collection Areas & Collectors

- *Namada*, Walt Smith International Ltd. (MAC Certified)
- *Vatukarasa*, Walt Smith International Ltd. (MAC Certified)
- *Vitogo, Naviti, Marou*, Walt Smith International Ltd. (MAC Certified)
- *Matacaucau*, Walt Smith International Ltd. (MAC Certified)
- Plus 6 other sites (in progress)

Certified Exporter

- *Lautoka*, Walt Smith International Ltd.
- Plus 3 others (in progress)

MAC Certification Progress & Planning: Supply Area – Pacific Islands

Other Pacific Islands

Collection Areas & Collectors (in progress)

- Vanuatu (14 collection sites)
- Solomon Islands (11 sites)
- Tonga (country wide)
- Kiribati / Kirimati (Christmas Island)
- Plus 6 other countries

Exporters (in progress)

- 1 in Vanuatu
- 1 in Solomon Islands
- 5 in Tonga
- Kiribati / Kirimati (Christmas Island)
- Plus other 6 other countries

MAC Certification Progress & Planning: Supply Area – Hawaii

Hawaii

Collection Areas & Collectors

- 3 in Kona, Big Island (in progress)

Exporter

- 1 in Kona, Big Island (in progress)

MAC Certification Progress & Planning: Supply Area – Mariculture / Aquaculture

Mariculture and Aquaculture Management Standard

- **Experts Group formed & reviewed strawman draft**
- **Marine Ornamentals 2004 (informal review of 2nd draft)**
- **Standards Advisory Group (SAG) international, multi-stakeholder review**
- **3 companies in Hawaii test case**
- **Scheduled completion December 2004**

MAC Certification Progress & Planning: Demand Area – North America

United States

Importers

- 1 in Los Angeles (MAC Certified)
- 1 in Florida (MAC Certified)
- 1 in Michigan (MAC Certified)
- 3 nationwide (in progress)

Retailers

- 3 in Michigan (MAC Certified)
- 1 in Illinois (MAC Certified)
- 1 in New Jersey (MAC Certified)
- 1 in Florida (MAC Certified)
- 15 nationwide (in progress)

Canada

Importers

- 1 in Vancouver (MAC Certified)

MAC Certification Progress & Planning: Demand Area – Europe

Netherlands

Importers

- 1 in The Hague
(MAC Certified)

France

Importers

- 1 in Villepinte
(MAC Certified)

Transshippers

- 1 in Mazamet
(MAC Certified)

United Kingdom

Importers

-1 in Chorelywood
(MAC Certified)

Nemo Says ...



“MAC makes sure aquarium fish are captured in a kind manner ... to protect the coral reef, because the whole world depends on coral and fish, and they depend on each other.”

---Alexander Gould
(the voice of Nemo)

Sustainable Marine Area Trade and Coral Reef Conservation through MAC Certification

... In the world's most biologically diverse marine ecosystems, i.e., the coral reefs of Asia and the Pacific

... In some of the world's poorest countries, e.g. Indonesia and the Philippines

... Through the support of US consumers and markets

... Creating the world's largest network of managed and protected marine areas

